

# PATENT SPECIFICATION



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321,269

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PROVISIONAL SPECIFICATION.

## Frames for Motor or other Cycles.

We, CYRIL GEORGE PULLIN, a British Subject, and THE ASCOT MOTOR & MANUFACTURING COMPANY LIMITED, a British Company, both of Pixmore Avenue, Letchworth, Hertfordshire, do hereby declare the nature of this invention to be as follows:—

This invention relates to frames for motor or other cycles, of the kind which are formed of pressed sheet metal. Usually there are two separate main pressings each forming one side of the frame, and these are united as by welding along any or all of their mutually corresponding edges.

The object of the present invention is to provide a frame which will be simpler, stronger and less expensive to construct than the foregoing kind and accordingly the two complete sides are integrally formed as a single pressing which is then folded, so that the two sides are brought into correct relationship, the fold forming one boundary of the frame.

In one construction, the two sides of the frame are formed integrally as a single pressing so that when bent over a mandrel or equivalent the fold constitutes the upper boundary of the frame.

At the end of the fold towards the head of the frame, parallel longitudinal slits are made for a certain distance along the

fold, if necessary cutting the so-formed tongue portion away. This leaves parts of the side which can then be wrapped round the head tube and welded to one another and to the tube so that this is firmly united in the frame.

The foregoing arrangement provides a considerably stronger construction than would be possible if the two side portions were formed separately, and it also eliminates the time and cost for welding of that part which, by the present invention, is folded.

Other details of the frame, such as forming the depressions for tank panels, the provision of tank diaphragms, sections of the rear mudguard, bosses to carry a tool box, a gear lever gate, leg-shields, and other parts could also be attached and welded in position before the bending takes place.

The various fittings just enumerated may be provided or arranged as is desirable, certain of them being already described in the Specification of our prior Patent Application No. 303,619.

Dated this 3rd day of September, 1928.

ERIC W. WALFORD,

Fellow of the Chartered Institute of Patent Agents,  
19, Hertford Street, Coventry,  
Agent for the Applicant.

## COMPLETE SPECIFICATION.

### Frames for Motor or other Cycles.

We, CYRIL GEORGE PULLIN, a British Subject, and THE ASCOT MOTOR & MANUFACTURING COMPANY LIMITED, a British Company, both of Pixmore Avenue, Letchworth, Hertfordshire, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to frames for motor or other cycles, of the kind having sheet-metal side walls formed by folding from a single pressing, and it has for its

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chief object to provide an improved and substantial method of attaching the steering head tube.

According to this invention, longitudinal slits are formed along the fold leaving tongues adapted to be wrapped round and attached to a separately formed head tube.

In the accompanying drawings, Figure 1 is a perspective view of one form of frame after the pressing operation and prior to the folding, showing the longitudinal slits, and also tank diaphragms attached to one side.

Figure 2 is a similar view showing the frame after the folding operation and one method of attaching the sides to the head tube.

Figures 3, 4 and 5 are fragmentary perspective views of the front part of a frame illustrating alternative methods of uniting the side walls with the head tube, and

Figure 6 is a vertical section longitudinally of the frame showing the method of forming fuel tanks, utilising the frame sides.

Like numerals indicate like parts throughout the drawings.

The two side walls 2 and 3 of the frame are formed integrally as a single pressing so that when bent along the lines 4, 5 (Figure 1) over a mandrel or equivalent the fold or surface 6 so formed constitutes the upper boundary of the frame.

At the end of the fold towards the head of the frame, longitudinal slits 7 are made for a certain distance along the fold, and the so-formed central tongue portion 8 is cut away as shown in Figure 1. This leaves parts 9 of each side which can then be wrapped round the head tube 10 (Figure 2) and welded to one another at 11 and to the tube so that this is firmly united in the frame.

The adjacent edges of the slits 7 would be welded together and the forward part 12 of the tongue 8 would be joined to the head tube as shown.

The foregoing arrangement provides a considerably stronger construction than would be possible if the two side portions 2 and 3 were attached at the edges only to the head tube as is usual.

Obviously other methods may be employed for uniting the head tube to the frame side walls, three examples of which are shown in Figures 3, 4 and 5. In Figure 3 the head tube 10 may be a stamping or pressing having on its exterior a longitudinal rib 13. The front edges to the parts 9 of each side wall are flanged at 14 and are adapted to lie one on each side of the rib 13, as shown, and to be clamped thereto by rivets 15 or the like.

To avoid the projection so formed on the front of the frame, the head tube may be turned through 180 degrees as shown in Figure 4, in which case the rib 13 and the clamping bolts 15 are then to the rear of the head tube. With this arrangement, distance pieces such as bushes (not shown) would be provided on each bolt between the inner surface of each part 9 and the adjacent surface on the rib 13, thereby locating the head tube and preventing any tendency for it to

move. The jointing edges of the parts 9 could be welded together if necessary before the head tube was inserted, so that this could easily be detached when required.

Figure 5 shows a head tube 10 without the rib 13, and in this case the parts 9 are wrapped around it and riveted thereto, the rivets 16 extending radially through a wall of the tube and the parts 9.

In all the foregoing arrangements the side walls of the frame are formed with depressions 17, substantially the shape of the fuel tanks, adapted to strengthen the frame and at the same time prevent "drumming" and these depressions can be formed during the pressing operation.

The frame side walls 2 and 3 and the folded portion 6 may be utilised to constitute certain walls of the fuel tanks, the remaining walls being formed by diaphragms or partition plates 18 as shown in Figure 1, these preferably being attached to one side of the frame before the bending operation. Similarly a curved partition plate 19 forming a section of the rear mudguard could be attached to the same frame side.

By this means the diaphragms or partition plates can be correctly located and a substantial amount of the welding required to attach these parts can be easily effected, which would be difficult after bending had taken place. The front wall of the main fuel tank in the arrangement shown in Figure 1 is constituted by the flanges 20 formed on the edges of the frame sides and integrally therewith immediately under the parts 9. These flanges abut at their edges 21 when the folding takes place and can thereafter be welded together, and to the lower edges of the parts 9 & the head tube 10.

Alternatively the front and bottom of the main fuel tank may be formed from a single sheet of metal 22 bent as shown in Figure 6 and attached along its free edges to the sides and top of the frame and along its rear edge 23 to the bottom of a second strip of metal 24 forming, with the frame, a lubricant tank.

Other details of the frame, such as bosses to carry a tool box, a gear lever gate, leg-shields, and other parts arranged as is desired could also be attached and welded in position before the bending takes place.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A frame for a motor or other cycle of the kind referred to, in which longitudinal slits are formed along the fold, 130

leaving tongues adapted to be wrapped round and attached to a separately formed head tube, for the purpose described.

2. A frame as claimed in Claim 1, in which the central tongue produced by the slitting operation is adapted to abut and be attached, as at 12, to the head tube.

3. A frame as claimed in either of the preceding claims, in which the head tube has a longitudinal rib adapted to be secured, as by bolts or rivets to the adjacent portions of the side walls.

4. The complete motor cycle frame and the method of attaching the head tube thereto, substantially as described or as illustrated in the accompanying drawings.

Dated this 4th day of June, 1929.

ERIC W. WALFORD, M.I.A.E.,  
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19, Hertford Street, Coventry,  
Agent for the Applicant.

[This Drawing is a reproduction of the Original on a reduced scale.]

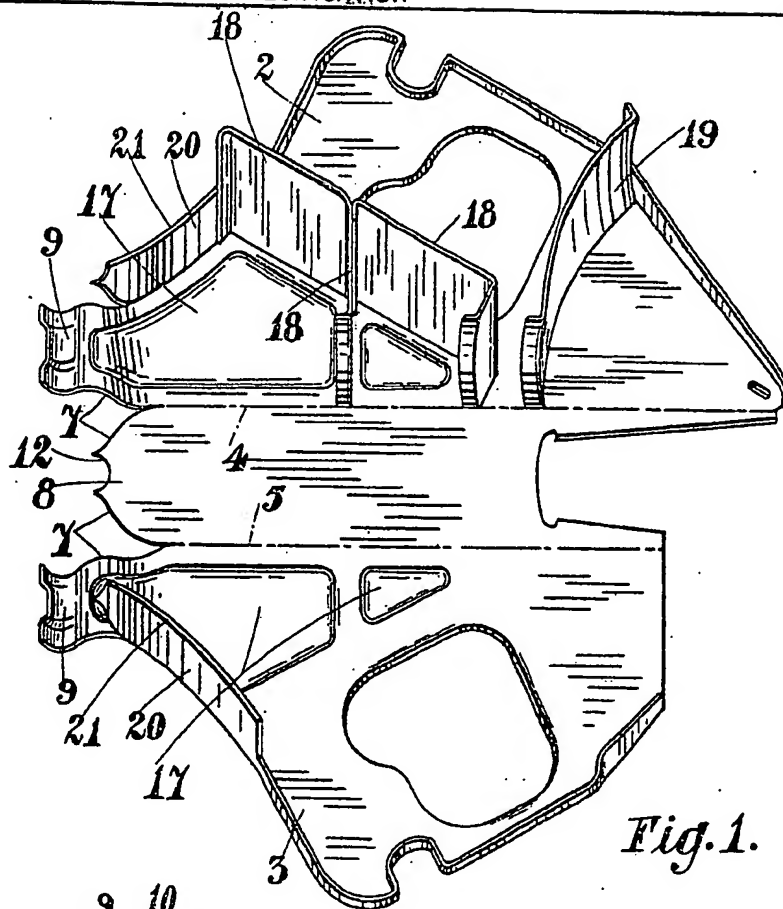


Fig. 1.

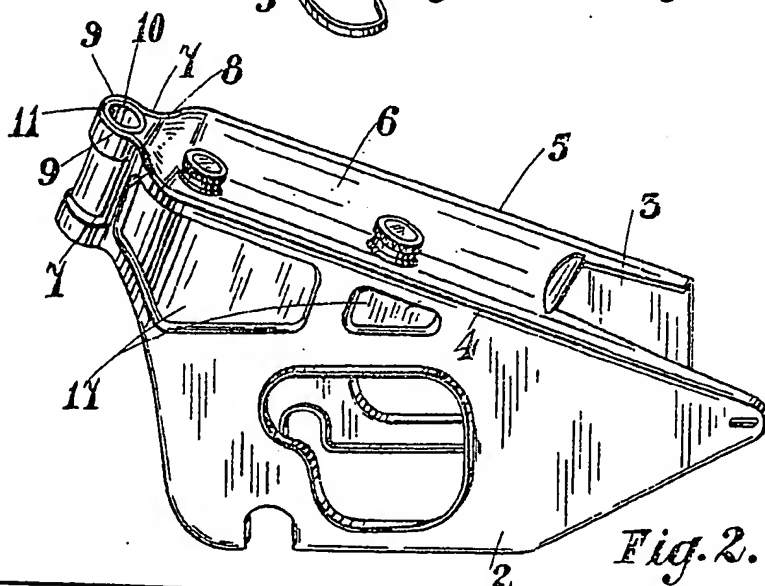
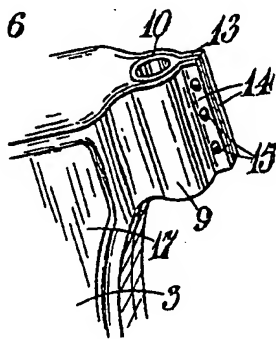
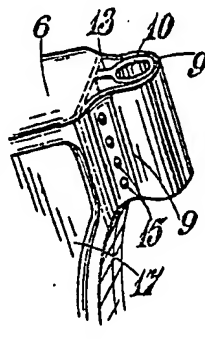


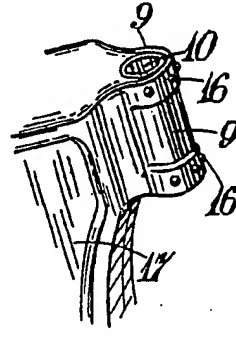
Fig. 2.



*Fig. 3.*

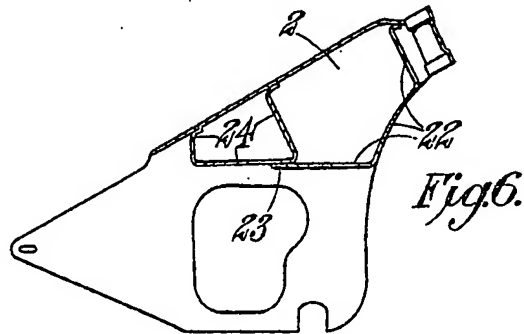


*Fig. 4.*



*Fig. 5.*

1.



*Fig. 6.*



2.

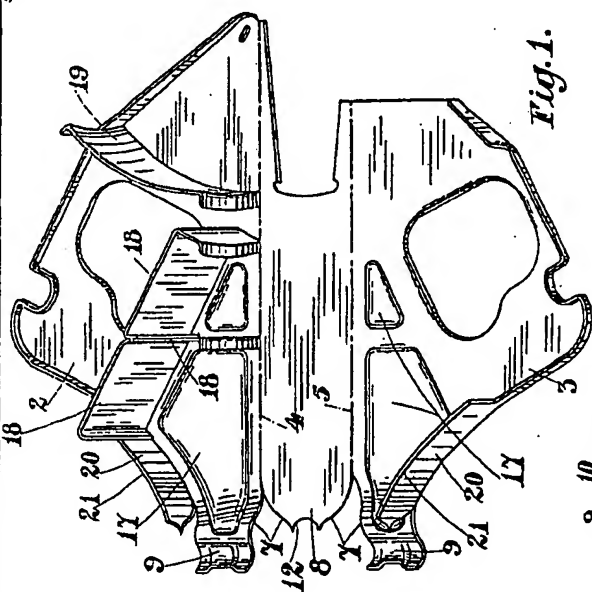


Fig. 1.

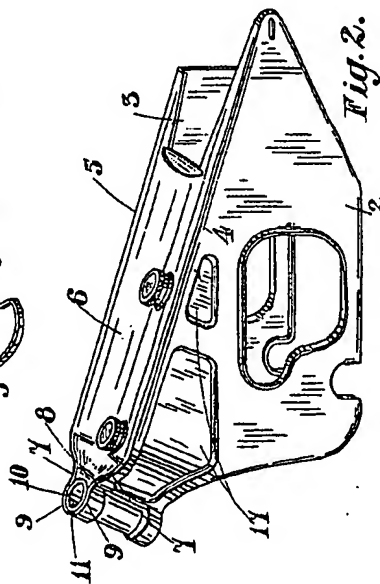


Fig. 2.

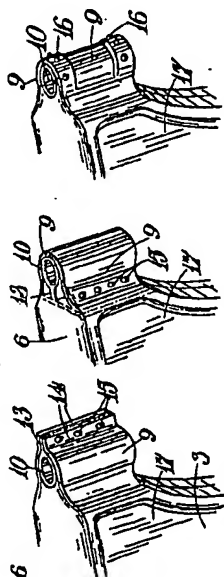


Fig. 3.

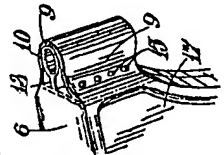


Fig. 4.

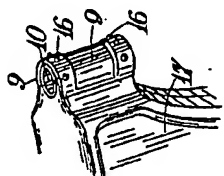


Fig. 5.

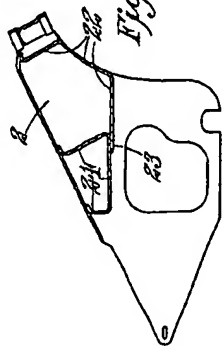


Fig. 6.

[This Drawing is a reproduction of the Original on a reduced scale]